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(54) A container

(57) There is disclosed a container (10) having a body (13) for containing a liquid, and a lower end (16) from which a protrusion (18) extends, and the protrusion (18) includes two grooves (20, 22) on its outer surface (23) and a recess (26) is provided on a lower end (18) of the protrusion (18).

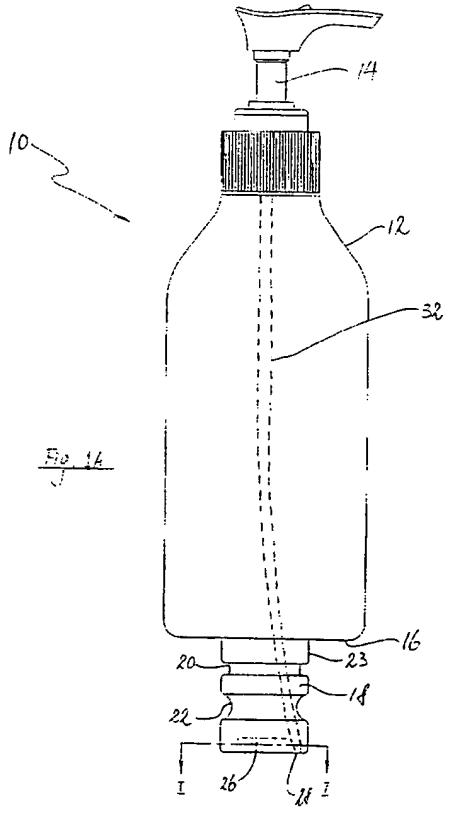

Fig 1

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Description

Background of the Invention

[0001] This invention relates to a container, e.g. a liquid dispenser, and, in particular, such a container suitable for, but not limited to, being engaged with a base member.

[0002] Various containers have been devised for being releasably engaged with a base member. For the purpose of discouraging unauthorized removal of the liquid dispenser from the place of use, the dispenser is usually provided with a protrusion with a spherical end, which does not allow the dispenser to support itself on an ordinary support surface, e.g. a sink counter top. However, it is found that after a certain period of use, the dispenser may get loosed from the base member, so that it is necessary to tigttigthen5 the dispenser again into the base member. It is therefore an object of the present invention to provide a container in which the aforesaid shortcoming is mitigated, or at least to provide a useful alternative to the public.

Summary of the Invention

[0003] According to the present invention, there is provided a container having a body member for containing a liquid, and a base from which a protruding member extends, wherein said protruding member includes at least two grooves on its outer surface, and wherein at least one recess is provided on a lower surface of said protruding member.

Brief Description of the Drawings

[0004] Embodiments of the present invention will be described by way of examples only, and with reference to the accompanying drawings, in which:-

Fig. 1A is a side view of a liquid dispenser according to the present invention;
Fig. 1B is a sectional view of the liquid dispenser taken along the line I-I in Fig. 1, ignoring the straw;
Fig. 2 is a side view of a first embodiment of a mounting base suitable for engagement with the liquid dispenser shown in Fig. 1;
Fig. 3 is a part-sectional view showing the liquid dispenser shown in Fig. 1 engaged with the mounting base shown in Fig. 2, and attached as a whole to a support;
Fig. 4 is a corresponding part-sectional view of Fig. 3 (with the support removed for clarity purposes) in which the liquid dispenser is locked with the mounting base;
Fig. 5A is a sectional view of the mounting base taken along the line V-V in Fig. 2 in which the locking pins are in the locking position;
Fig. 5B is a sectional view of the mounting base taken along the line V-V in Fig. 2 in which the locking pins are in the unlocked position;
Fig. 6 is a part-sectional side view showing the liquid dispenser in Fig. 1 engaged with a second embodiment of a mounting base;
Fig. 7 is a corresponding part-sectional view of the liquid dispenser and mounting base shown in Fig. 6 in which the dispenser is not locked with the mounting base;
Fig. 8 is a part-sectional side view showing the liquid dispenser shown in Fig. 1 engaged with a third embodiment of a mounting base.

Detailed Description of the Preferred Embodiments

[0005] Referring to Fig. 1A, a liquid dispenser, e.g. for dispensing liquid soap, according to the present invention is shown and generally designated as 10. The dispenser 10 includes a body 12 for containing the liquid, with a conventional manually operable pump and spout assembly 14 threaded to the upper end of the body 12. Formed at and extending from a lower end 16 of the body 12 is a protrusion 18. As can be seen in Fig. 1A, the protrusion 18 is generally cylindrical in shape with two groove portions 20, 22 on its outer surface 23. It can be seen that while the surface of the groove portion 20 is substantially planar, the surface of the groove portion 22 is generally concave. It can be seen that a recess 26 is formed on the lower end 28 of the protrusion 18. It can be seen that the diameter of the protrusion 18 is smaller than the diameter of the body portion 12 of the dispenser 10. By way of such an arrangement, while the dispenser 10 may stand on its own on the protrusion 18, unauthorized removal of the dispenser 10 is discouraged as the dispenser 10 cannot stand stably without a mounting base.

[0006] As can be seen in Fig. 1B, a circular recess 30 is formed on the internal upwardly facing surface of the body member 12. As can be seen in Fig. 1A, a straw 32 associated with the manually operable pump and spout assembly 14 extends to the circular recess 30 on the internal upwardly facing surface of the body member 12. Such ensures that the liquid contained in the body member 12 can be fully utilized.

[0007] Shown in Fig. 2 is a first embodiment of a mounting base according to the present invention, and generally designated as 100. The mounting base 100 includes a body portion 102 and a ring 104. The ring 104 is rotatable or swivelable relative to the body portion 102 about a common central longitudinal axis L-L. The outer surface of the ring 104 is corrugated to enhance gripping by a hand of a user for rotation/swiveling. The body portion 102 is open on its upper end 106, through which the protrusion 18 of the dispenser 10 can enter and be received within an internal cavity of the body portion 102.

[0008] As shown in Fig. 3, the dispenser 10 is engaged with the mounting base 100, and the mounting base 100 is in turn engaged with and thus supported

upright on a support surface 108. The mounting base 100 includes a shank 110 with a threaded end 112 and a nut 114 in threaded engagement with the threaded end 112. The shank 110, as shown in Fig. 3, is received through a hole in the support surface 108 and the nut 114 is threaded onto the threaded end 112 of the shank 110 from below, so as to secure the mounting base 100, and thus the dispenser 10, to the support surface 108.

[0009] The protrusion 18 of the dispenser 10 is received within an internal cavity of the mounting base 100. The recess 26 of the protrusion 18 sits on a substantially complementarily shaped and sized upwardly extending ridge 116 on the inner bottom end of the mounting base 100 (see Figs. 5A and 5B). Such an arrangement can ensure better engagement between the dispenser 10 and the mounting base 100, so that the dispenser is stable during operation of the pump and spout assembly 14.

[0010] As shown in Figs. 3 and 4, the mounting base 100 includes a set of upper pin assemblies 120 (of which only one is shown in Figs. 3 and 4) and a set of lower pin assemblies 122 (of which, again, only one is shown in Figs. 3 and 4). In this particular embodiment, there are three upper pin assemblies 120, and three lower pin assemblies 122. Referring first to the set of lower pin assemblies 122, each such assembly 122 includes a lower pin 124 and a lower spring 126, which biases the respective lower pin 124 radially towards the inner cavity of the mounting base 100. Such an arrangement ensures that when the dispenser 10 is engaged with the mounting base 100 in the position as shown in Figs. 3 and 4, the lower pins 124 are engaged and snap-fitted with the groove portion 22, so that the dispenser 10 is releasably engaged with the mounting base 100. If the dispenser 10 is not locked with the mounting base 100 (as shown in Fig. 3), the dispenser 10 may be disengaged from the mounting base 100 by being pulled upward and away from the mounting base 100. In this way, the lower pin 124 will be pushed radially outward against the biasing force of the lower spring 126, thus allowing the dispenser 10 to be disengaged from the mounting base 100.

[0011] As to the upper pin assemblies 120, each such assembly 120 includes an upper pin 128, an upper spring 130, and a head portion 132 integrally formed with the upper pin 128. In a manner to be discussed below, the upper pin 128 may be moved radially inwardly, and against the biasing force of the upper spring 130, to the position as shown in Fig. 4, to engage the groove portion 20 of the protrusion 18. In this inner position, due to the shape of the upper pin 128 and the surface of the groove portion 20, the dispenser 10 is locked, i.e. prevented from being disengaged from the mounting base 100, even if the dispenser 10 is pulled upward from the mounting base 100.

[0012] Fig. 5A shows the upper pins 128 in the inner locking position. In this position, each of the head portion 132 of the pin 128 is acted by a cam surface 134 on the inner surface of the ring 104, so that the cam surface 134 pushes and retains the upper pin 128 in its inner position to engage with the groove portion 20. When the ring 104 is rotated in the direction shown by the arrow B in Fig. 5B relative to the rest of the mounting base 100, the cam surfaces 134 will come out of engagement with the respective head portion 132. As the upper springs 130 bias the respective upper pin 128 radially away from the longitudinal axis L-L of the mounting base 100, to its outer position (as shown in Fig. 5B), the upper pins 128 will be disengaged from the groove portion 20 to unlock the dispenser 10, thus allowing the dispenser 10 to be disengaged from the mounting base 100. The ring 104 may be turned or rotated relative to the body portion 102 in the direction shown by the arrow A in Fig. 5A, to again lock the dispenser 10 to the mounting base 100. It can be seen that the present invention provides a simple yet effective locking feature which can be used in a large variety of applications.

[0013] Figs. 6 and 7 show engagement of the dispenser 10 with a second embodiment of a mounting base designated as 200. As in the first embodiment of mounting base 100 discussed above, this mounting base 200 also includes a body portion 202 and a rotatable ring 204. The main difference in this mounting base 200 is that a shaft 206 extends obliquely from a bottom end 208. The distal end of the shaft 206 is also threaded so that it can be threadedly engaged with a nut 210. By way of such an arrangement, the dispenser 10 may still assume an upright position although it is secured to a slanted support surface. Alternatively, the dispenser 10 may assume an appropriately slanted position when it is secured to a horizontal support surface. It can be seen in Figs. 6 and 7 that the mode of engagement and locking between the dispenser 10 and the mounting base 200 are the same as in the first embodiment discussed above.

[0014] Fig. 8 shows the dispenser 10 engaged with a third embodiment of a mounting base 300. The main difference between this mounting base 300 and the previous two embodiments 100 and 200 is that no shank extends from the mounting base 300. An adhesive tape/pad 302 is provided on a bottom surface 304 of the mounting base 300, so that the mounting base 300 may be attached to a support surface. Again, the mode of engagement and locking between the dispenser 10 and the mounting base 300 are the same as in the previous two embodiments discussed above.

Claims

1. A container having a body member for containing a liquid, and a base from which a protruding member extends, wherein said protruding member includes at least two grooves on its outer surface, and wherein at least one recess is provided on a lower surface of said protruding member.

2. A container according to Claim1 wherein a circular recessed area is provided on an internal upwardly facing surface of said body member.

3. A container according to Claim 1 or 2 wherein said body member includes means associated with an upper end of said container for delivering said liquid from said container to the exterior.

4. A container according to Claim 3 when dependent on Claim 2 wherein said delivering means includes a straw member extending to said circular recessed area on said internal upwardly facing surface of the body member.

5. A container according to any of the preceding claims wherein said protruding member is integral with said body member.

6. A container according to any of the preceding claims wherein said protruding member is substantially cylindrical.

7. A container according to any of the preceding claims wherein said grooves are substantially parallel to each other.

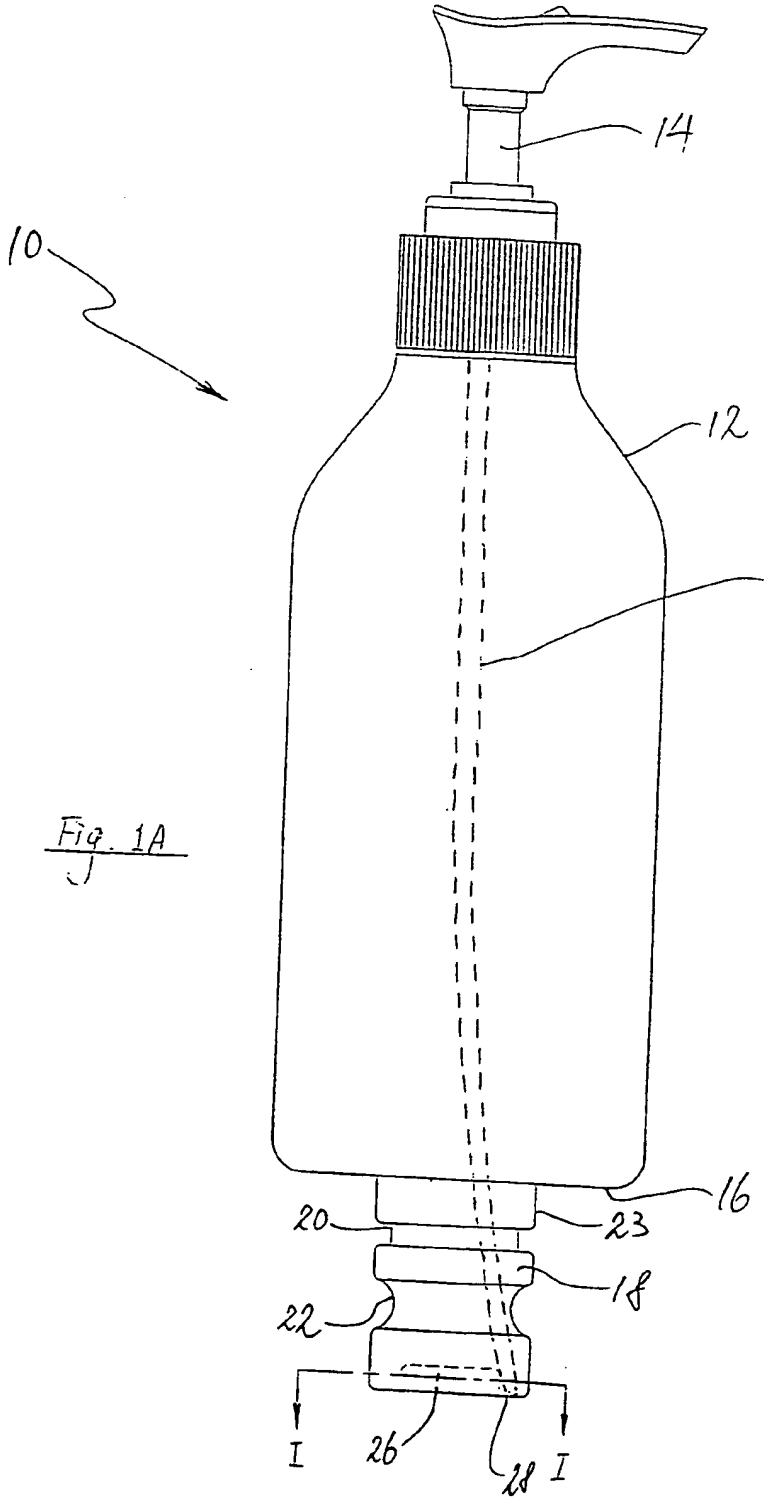

Fig. 1A

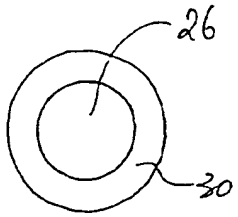

Fig. 1B

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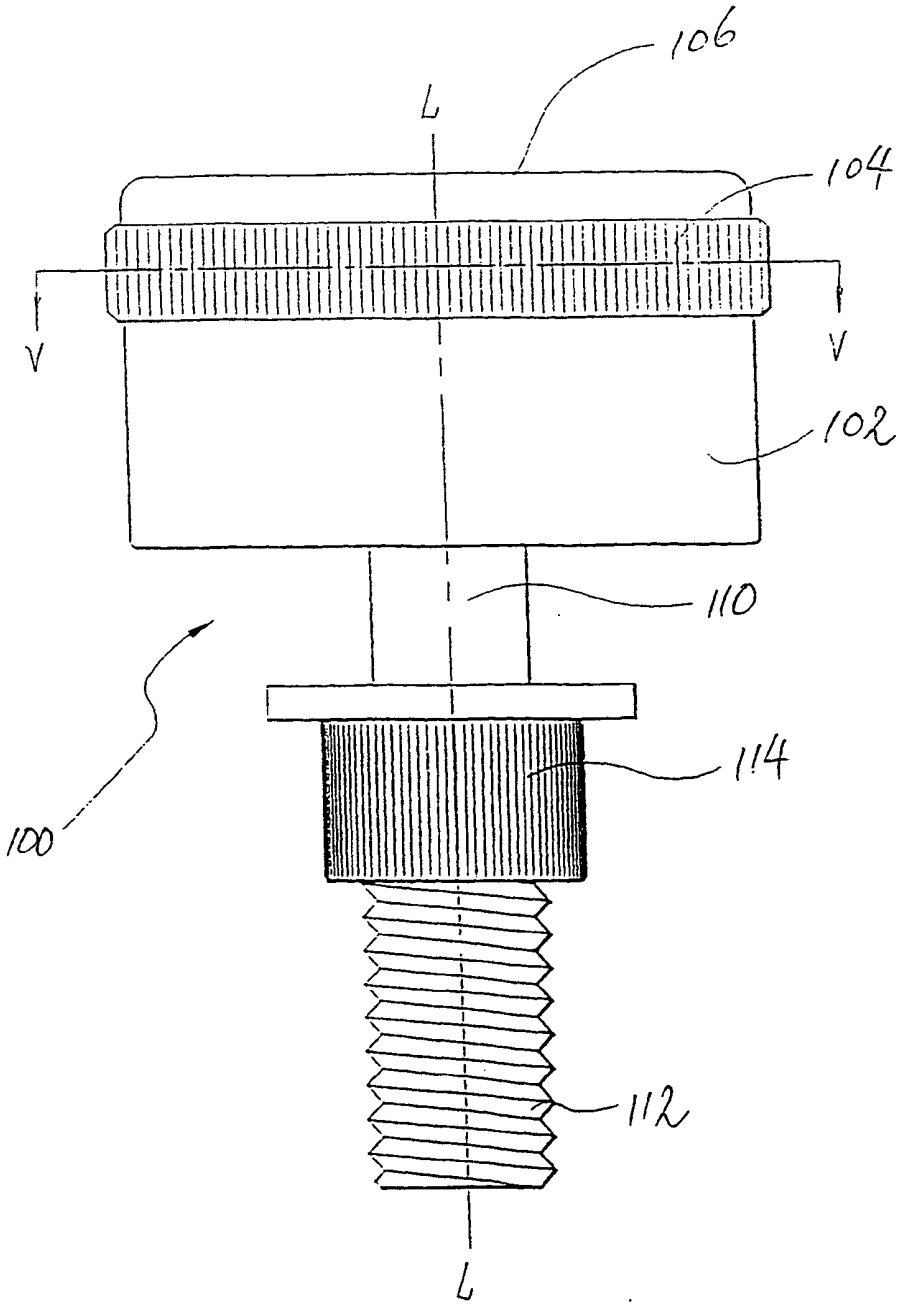

Fig. 2

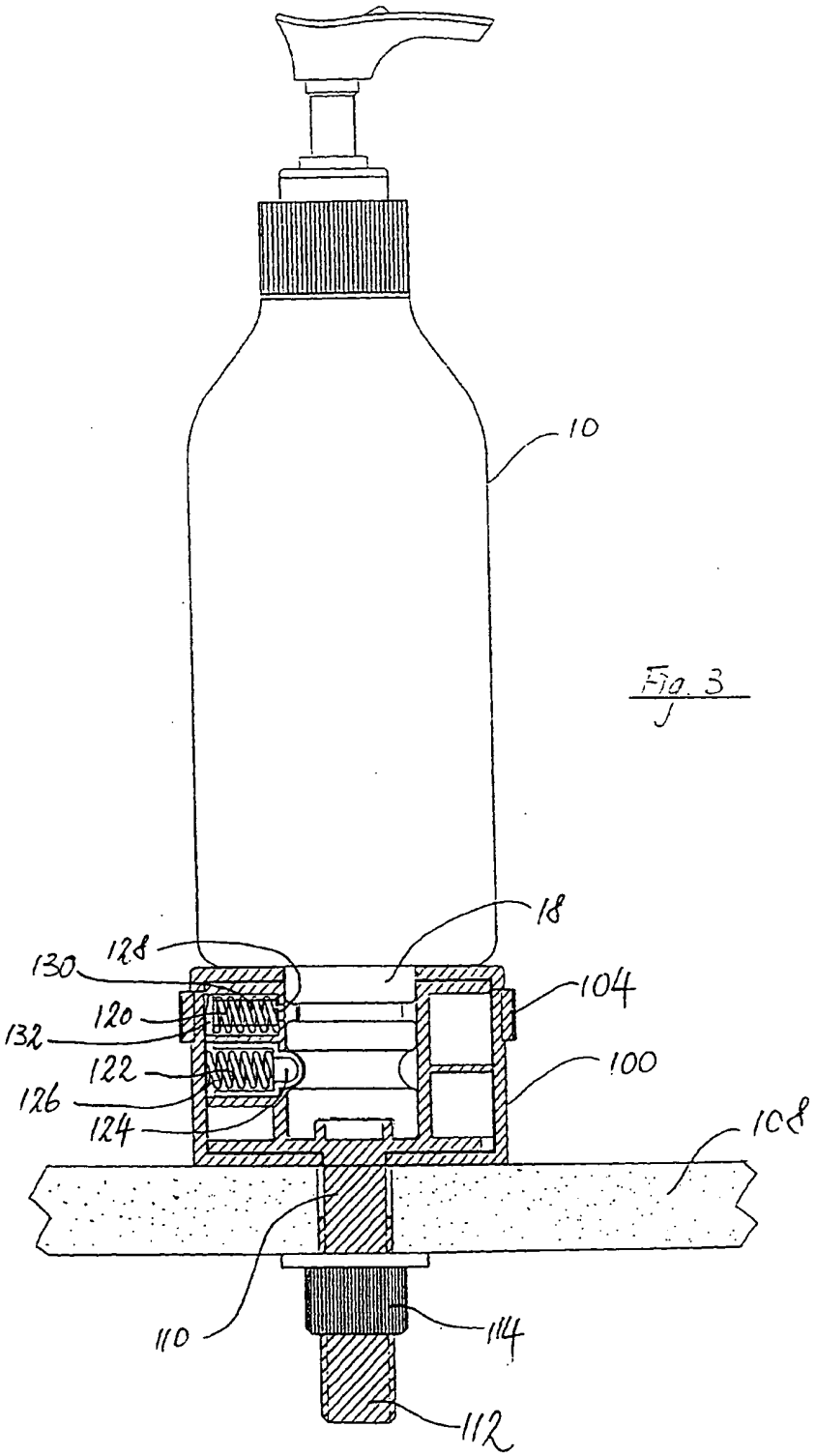

Fig. 3

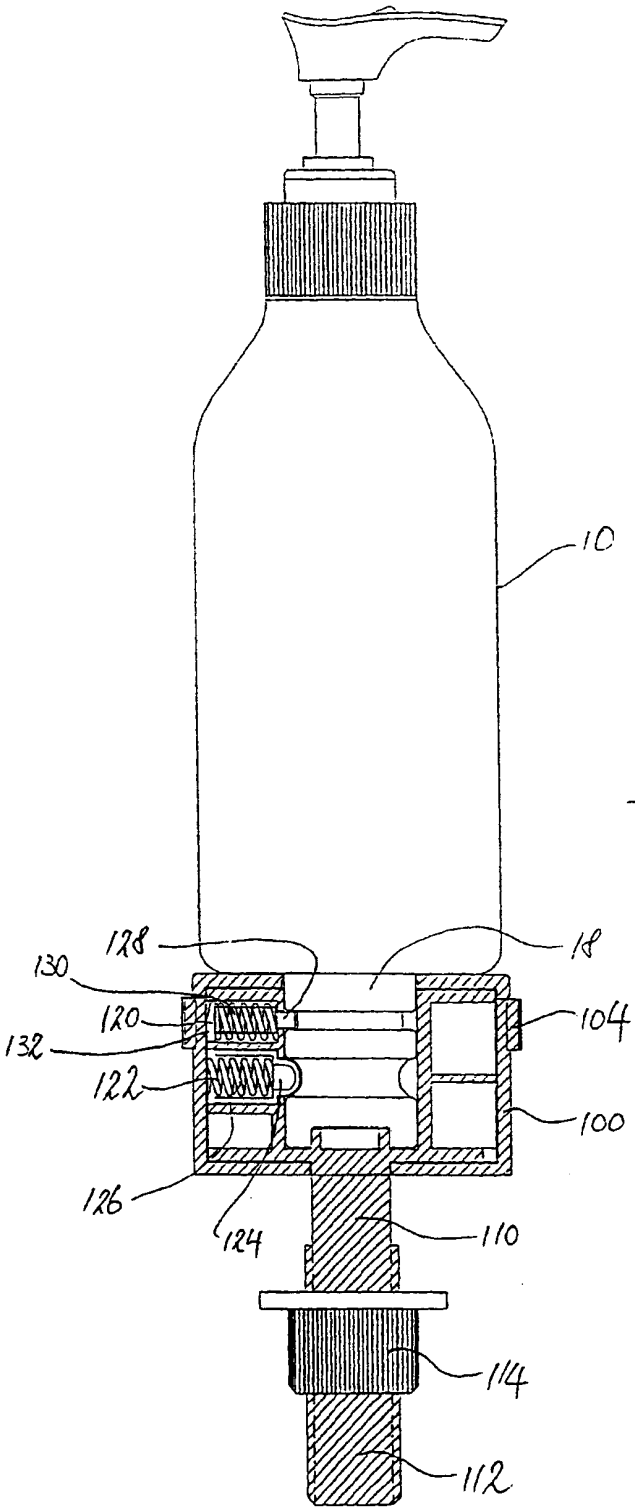

Fig. 4

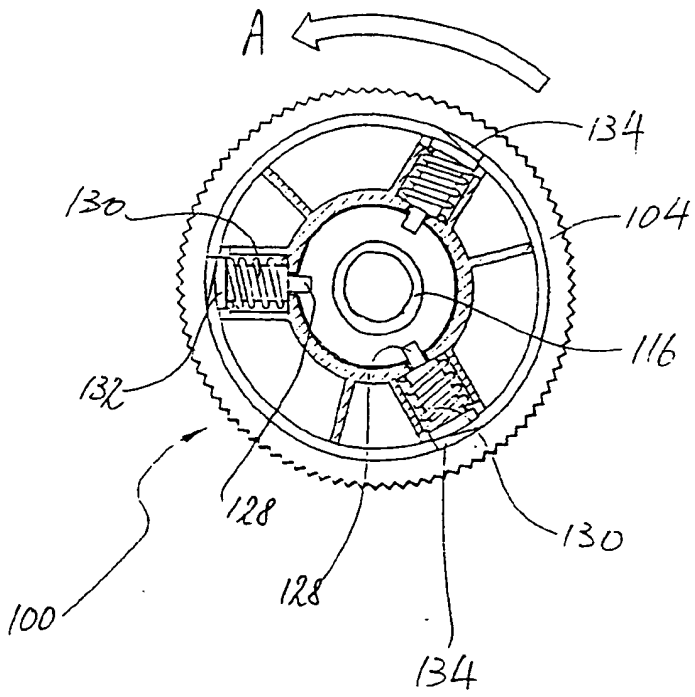

Fig. 5A

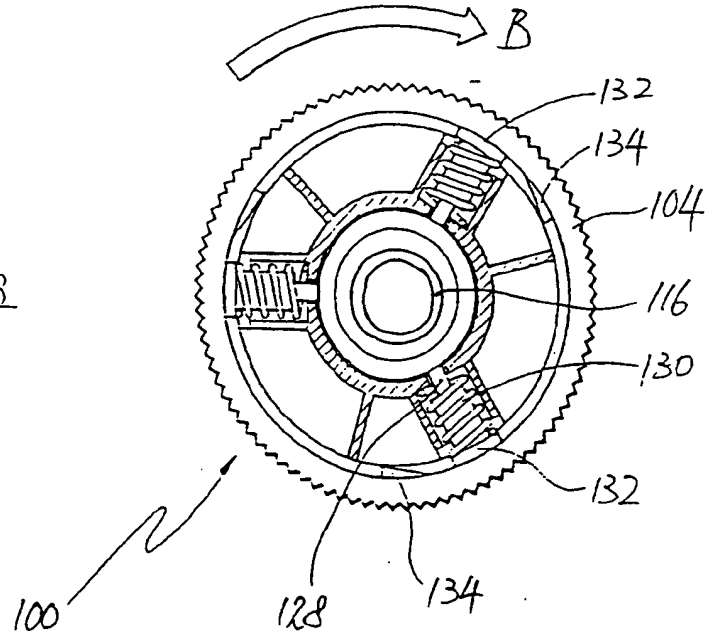

Fig. 5B

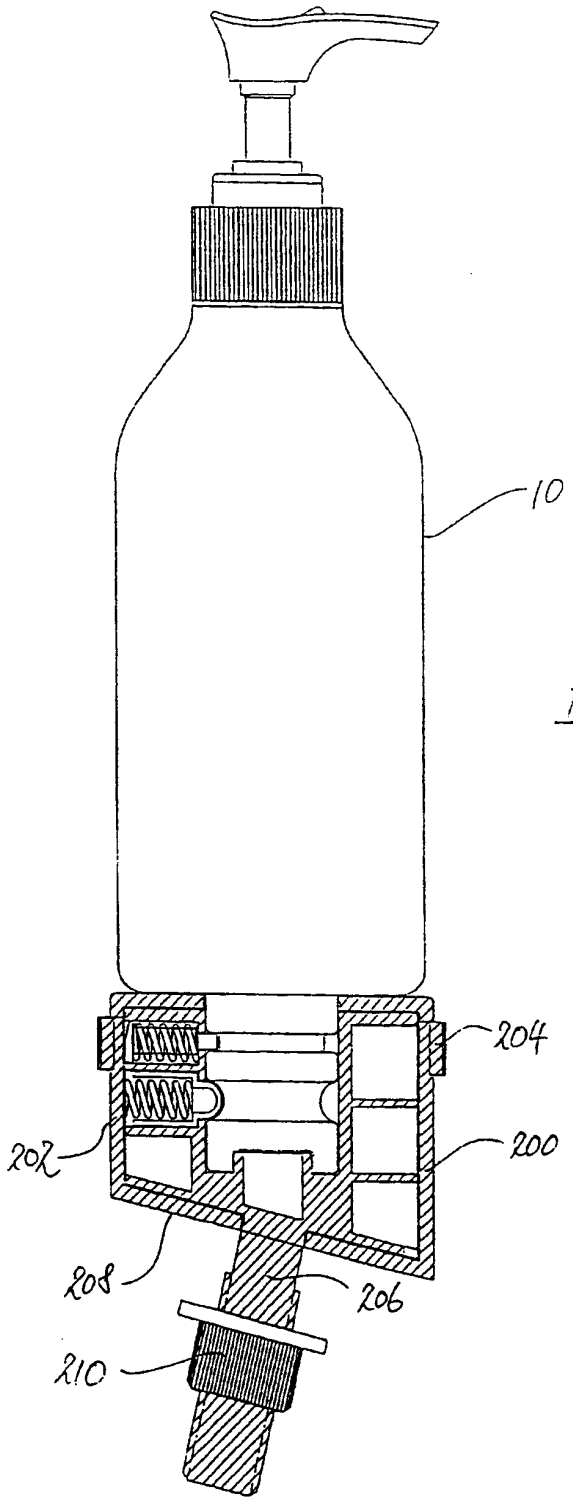

Fig. 6

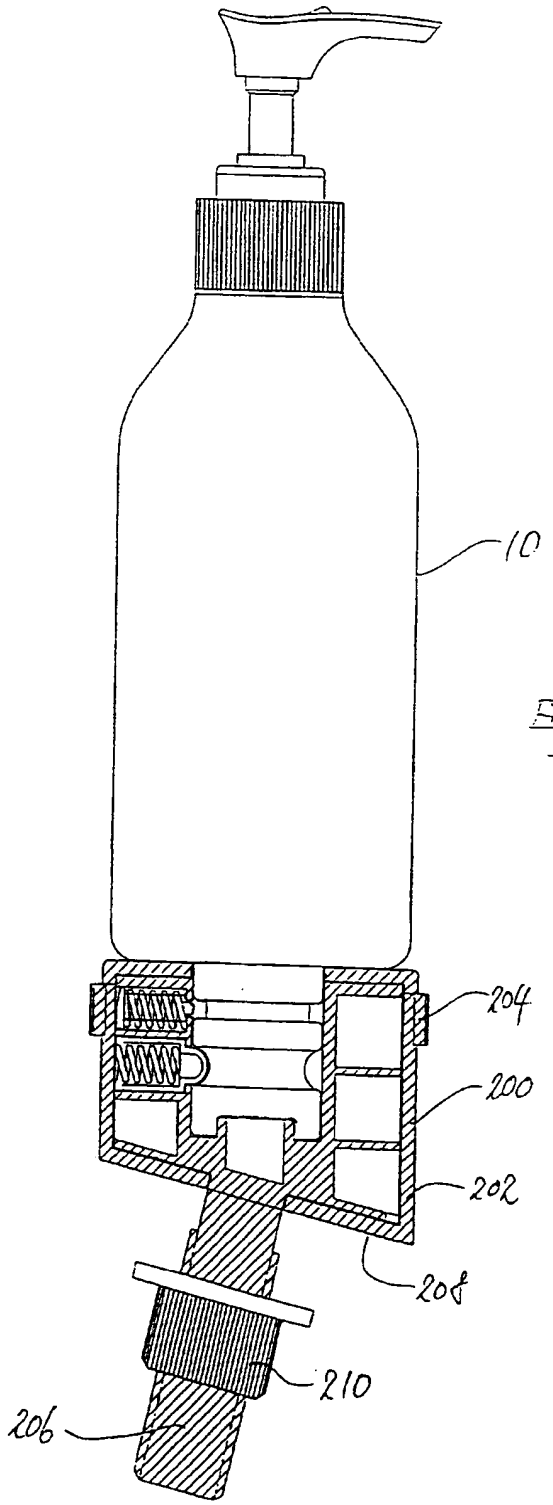

Fig. 7

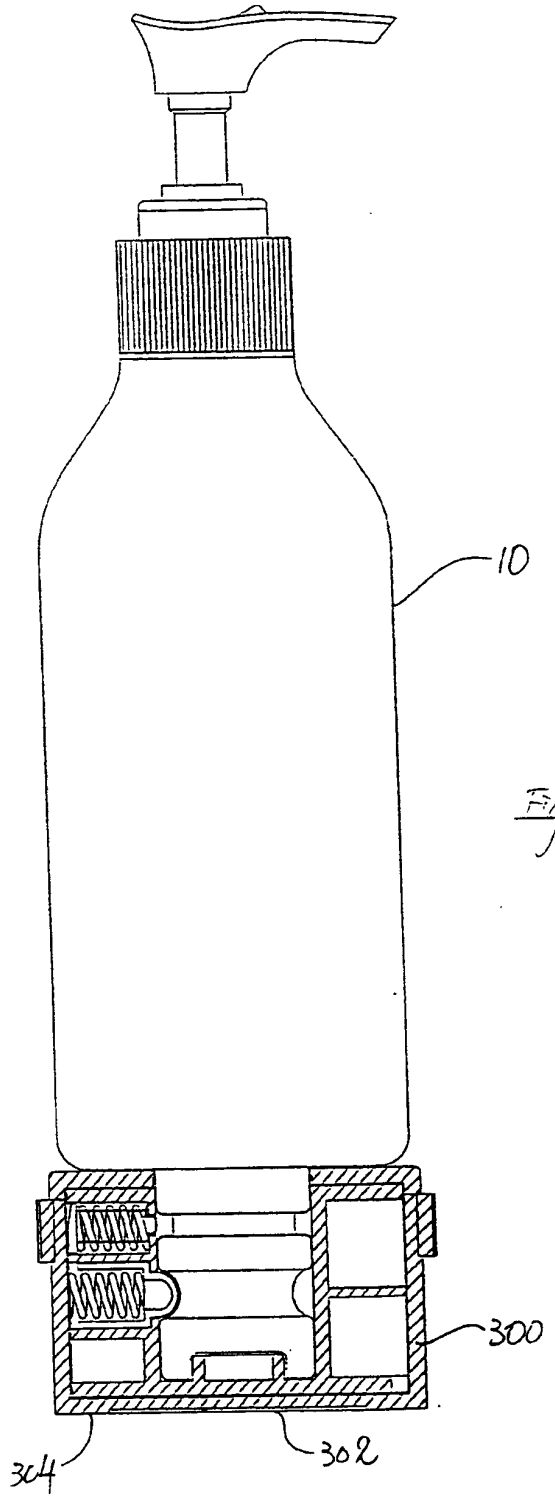

Fig. 8

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EUROPEAN SEARCH REPORT

Application Number
EP 00 30 6114

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 148 948 A (GRANVILLE RICHARD C ET AL) 22 September 1992 (1992-09-22) * the whole document *	1	A47K3/12
A	US 5 240 147 A (FRAZIER ALAN D ET AL) 31 August 1993 (1993-08-31) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

A47K
E05B
B65D
F16L
A47G
F16B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	19 January 2001	Delzor, F

CATEGORY OF CITED DOCUMENTS

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19-01-2001

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